AN ALGORITHM-TO-HARDWARE SYSTEM
AND METHOD FOR CREATING
A DIGITAL CIRCUIT
Richard J. CARTER
HP Docket No.: 10008130-1

1 / 8
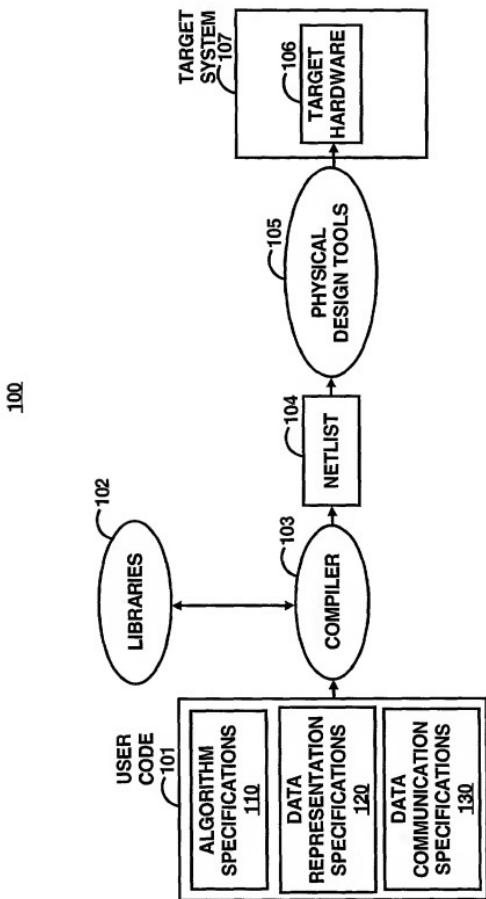
FIG. 1

AN ALGORITHM-TO-HARDWARE SYSTEM
AND METHOD FOR CREATING
A DIGITAL CIRCUIT
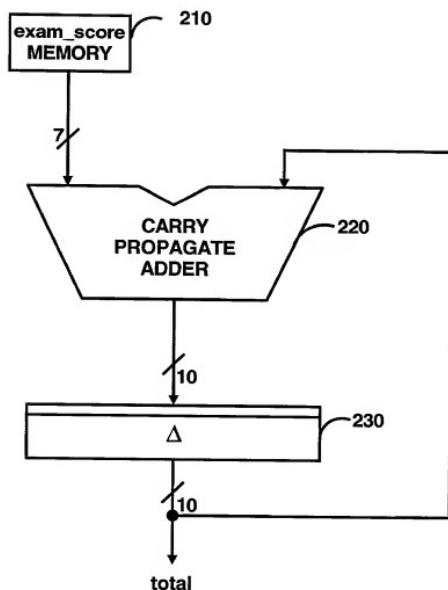Richard J. CARTER
HP Docket No.: 10008130-1

2 / 8

200

FIG. 2

AN ALGORITHM-TO-HARDWARE SYSTEM
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Richard J. CARTER
HP Docket No.: 10008130-1

3 / 8

300

FIG. 3

AN ALGORITHM-TO-HARDWARE SYSTEM
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HP Docket No.: 10008130-1

4 / 8

400

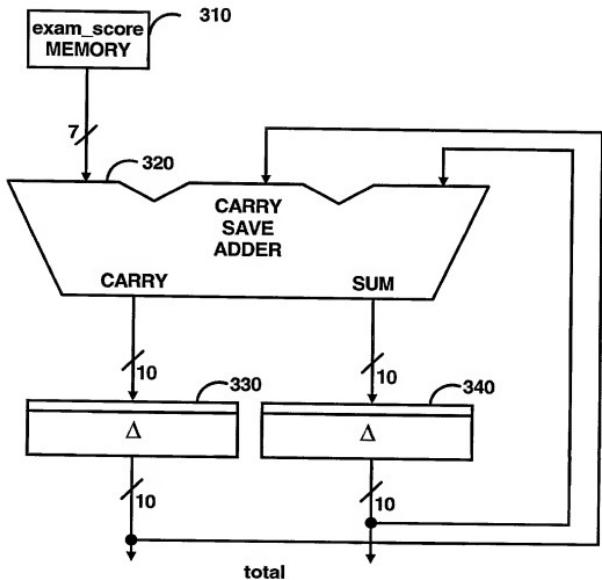
FIG. 4

AN ALGORITHM-TO-HARDWARE SYSTEM
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Richard J. CARTER
HP Docket No.: 10008130-1

5 / 8

500

RECEIVE USER CODE — 510

↓

COMPILE USER CODE TO
GENERATE A NETLIST — 520

↓

MAP NETLIST USING
PHYSICAL DESIGN TOOLS — 530

↓

GENERATE TARGET
HARDWARE — 540

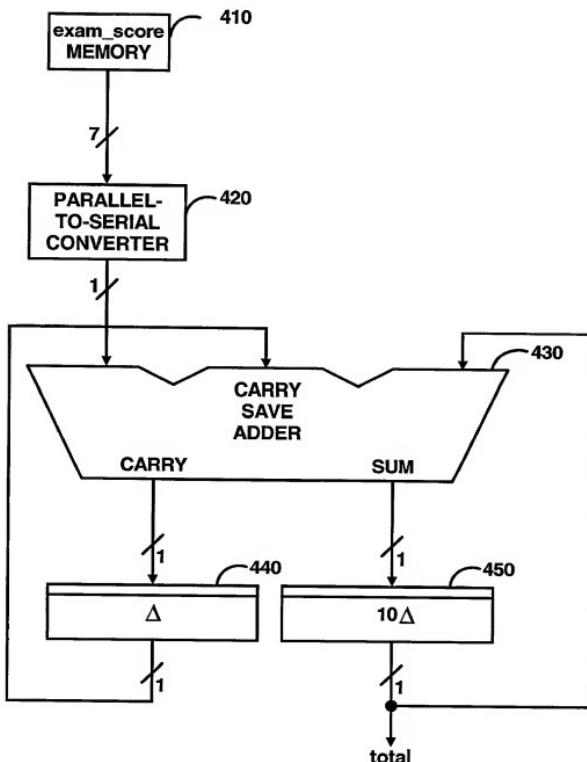*FIG. 5*

AN ALGORITHM-TO-HARDWARE SYSTEM
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HP Docket No.: 10008130-1

6 / 8

600

```
┌─────────────────────┐
│  IDENTIFY FEEDING   │ ─ 610
│     VARIABLES       │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│      IDENTIFY       │ ─ 620
│  ASSUMABLE VALUE    │
│    SET FOR EACH     │
│  FEEDING VARIABLE   │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│     CALCULATE       │
│  ASSUMABLE VALUE    │ ─ 630
│  SET FOR VARIABLE   │
│  HOLDING RESULT     │
└─────────────────────┘
```

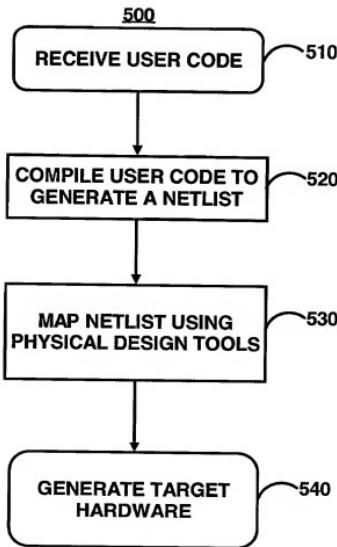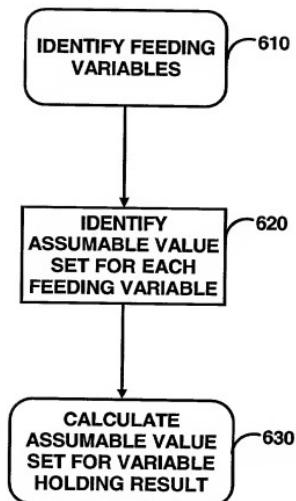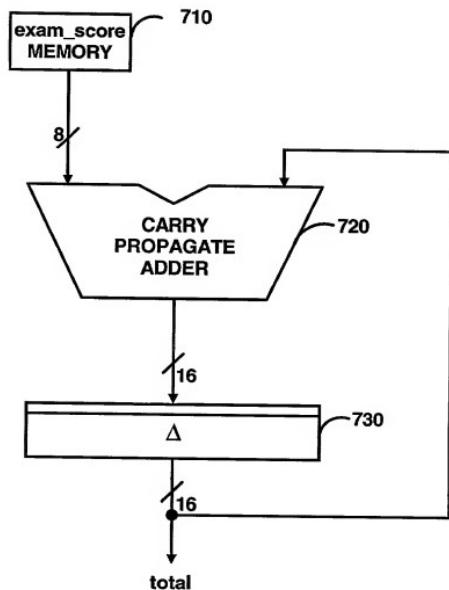*FIG. 6*

AN ALGORITHM-TO-HARDWARE SYSTEM
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Richard J. CARTER
HP Docket No.: 10008130-1

7 / 8

700


```
┌──────────────┐  ╭─ 710
│ exam_score   │
│   MEMORY     │
└──────────────┘

        │ 8/

   ╲   CARRY      ╱ ── 720
    ╲  PROPAGATE ╱
     ╲ ADDER    ╱

        │ /16

  ┌──────────────────┐ ── 730
  │        Δ         │
  └──────────────────┘

        │ /16

       total
```

FIG. 7
Prior Art

AN ALGORITHM-TO-HARDWARE SYSTEM
AND METHOD FOR CREATING
A DIGITAL CIRCUIT
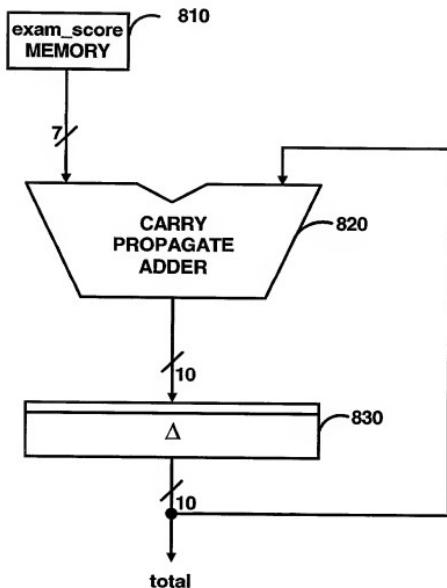Richard J. CARTER
HP Docket No.: 10008130-1

8 / 8

800

exam_score MEMORY — 810

7

CARRY PROPAGATE ADDER — 820

10

Δ — 830

10

total

FIG. 8
Prior Art